

MUSCLE & NERVE



CONTENTS

Official Journal of the American Association of Electrodiagnostic Medicine

JANUARY 1997

- 1 **Message from the Editor's Office**
- 2 **An Electromyographer at Mach 25**
Dan Barry, MD, PhD

MAIN ARTICLES

- 4 **AAEM Minimonograph #47: Normative Data in Electrodiagnostic Medicine**
Leslie J. Dorfman, MD, and Lawrence R. Robinson, MD
- 15 **Motor Nerve Biopsy Studies in Motor Neuropathy and Motor Neuron Disease**
Massimo Corbo, MD, M. Kamel Abouzahr, MD, Norman Latov, MD, PhD, Sandro Iannaccone, MD, Angelo Quattrini, MD, Raffaello Nemni, MD, Nicola Canal, MD, and Arthur P. Hays, MD
- 22 **Motor Unit Number Estimation: Sample Size Considerations**
Michael Slawnych, PhD, Charles Laszlo, PhD, and Cecil Hershler, PhD, MD, RFCEP(C)
- 29 **Inaccurate Projection of Rat Soleus Mononeurons: A Comparison of Nerve Repair Techniques**
Sue C. Bodine-Fowler, PhD, R. Scott Meyer, MD, Alex Moskovitz, BA, Reid Abrams, MD, and Michael J. Botte, MD
- 38 **Physiological Tremor Analysis of Patients with Anti-Myelin-Associated Glycoprotein Associated Neuropathy and Tremor**
S.F. Pedersen, S.L. Pullman, MD, FRCP(C), N. Latov, MD, PhD, and T.H. Brannagan III, MD
- 45 **Progressive Motor Neuron Impairment in an Animal Model of Familial Amyotrophic Lateral Sclerosis**
Mimoun Azzouz, Nathalie Leclerc, Mark Gurney, PhD, Jean-Marie Warter, MD, Philippe Poindron, PhD, and Jacques Borg, MD, PhD
- 52 **End-Plate Electromyography: Use of Spectral Analysis of End-Plate Noise**
Ricardo A. Maselli, MD
- 59 **Subacute Uremic and Diabetic Polyneuropathy**
Charles F. Bolton, MD, FRCP(C), Martin J. McKeown, MD, FRCP(C), Robert Chen, MD, BChir, Betsy Toth, and Hussein Remtulla, BSc, RT(EMG)
- 65 **Abnormalities of Cortical Inhibitory Neurons in Amyotrophic Lateral Sclerosis**
Mohammed Enterzari-Taher, MD, Andrew Eisen, MD, Heather Stewart, BSc, RT(EMG), and Masashi Nakajima, MD
- 72 **Spontaneous Myopathy in the SJL/J Mouse: Pathology and Strength Loss**
Ann H. Weller, PhD, Susan A. Magliato, BA, Katherine P. Bell, HT, and Neil L. Rosenberg, MD
- 83 **Evaluation of Neuropathy in Patients on Suramin Treatment**
Betty Soliven, MD, Upinder K. Dhand, MD, Ken Kobayashi, MD, Ravinder Arora, MD, Barbara Martin, MD, Michele V. Petersen, Linda Janisch, RN, Nicholas J. Vogelzang, MD, Everett E. Vokes, MD, and Mark J. Ratain, MD
- 92 **Expression of CD59, a Regulator of the Membrane Attack Complex of Complement, on Human Skeletal Muscle Fibers**
Jean-Marc Navenot, PhD, Marcello Villanova, MD, Brigitte Lucas-Héron, PhD, Alessandro Malandrini, MD, Dominique Blanchard, PhD, and Jean-Pierre Luboutin, MD, PhD

MUSCLE & NERVE



CONTENTS

Official Journal of the American Association of Electrodiagnostic Medicine

JANUARY 1997

- 1 **Message from the Editor's Office**
- 2 **An Electromyographer at Mach 25**
Dan Barry, MD, PhD

MAIN ARTICLES

- 4 **AAEM Minimonograph #47: Normative Data in Electrodiagnostic Medicine**
Leslie J. Dorfman, MD, and Lawrence R. Robinson, MD
- 15 **Motor Nerve Biopsy Studies in Motor Neuropathy and Motor Neuron Disease**
Massimo Corbo, MD, M. Kamel Abouzahr, MD, Norman Latov, MD, PhD, Sandro Iannaccone, MD, Angelo Quattrini, MD, Raffaello Nemni, MD, Nicola Canal, MD, and Arthur P. Hays, MD
- 22 **Motor Unit Number Estimation: Sample Size Considerations**
Michael Slawnych, PhD, Charles Laszlo, PhD, and Cecil Hershler, PhD, MD, RFCEP(C)
- 29 **Inaccurate Projection of Rat Soleus Mononeurons: A Comparison of Nerve Repair Techniques**
Sue C. Bodine-Fowler, PhD, R. Scott Meyer, MD, Alex Moskovitz, BA, Reid Abrams, MD, and Michael J. Botte, MD
- 38 **Physiological Tremor Analysis of Patients with Anti-Myelin-Associated Glycoprotein Associated Neuropathy and Tremor**
S.F. Pedersen, S.L. Pullman, MD, FRCP(C), N. Latov, MD, PhD, and T.H. Brannagan III, MD
- 45 **Progressive Motor Neuron Impairment in an Animal Model of Familial Amyotrophic Lateral Sclerosis**
Mimoun Azzouz, Nathalie Leclerc, Mark Gurney, PhD, Jean-Marie Warter, MD, Philippe Poindron, PhD, and Jacques Borg, MD, PhD
- 52 **End-Plate Electromyography: Use of Spectral Analysis of End-Plate Noise**
Ricardo A. Maselli, MD
- 59 **Subacute Uremic and Diabetic Polyneuropathy**
Charles F. Bolton, MD, FRCP(C), Martin J. McKeown, MD, FRCP(C), Robert Chen, MD, BChir, Betsy Toth, and Hussein Remtulla, BSc, RT(EMG)
- 65 **Abnormalities of Cortical Inhibitory Neurons in Amyotrophic Lateral Sclerosis**
Mohammed Enterzari-Taher, MD, Andrew Eisen, MD, Heather Stewart, BSc, RT(EMG), and Masashi Nakajima, MD
- 72 **Spontaneous Myopathy in the SJL/J Mouse: Pathology and Strength Loss**
Ann H. Weller, PhD, Susan A. Magliato, BA, Katherine P. Bell, HT, and Neil L. Rosenberg, MD
- 83 **Evaluation of Neuropathy in Patients on Suramin Treatment**
Betty Soliven, MD, Upinder K. Dhand, MD, Ken Kobayashi, MD, Ravinder Arora, MD, Barbara Martin, MD, Michele V. Petersen, Linda Janisch, RN, Nicholas J. Vogelzang, MD, Everett E. Vokes, MD, and Mark J. Ratain, MD
- 92 **Expression of CD59, a Regulator of the Membrane Attack Complex of Complement, on Human Skeletal Muscle Fibers**
Jean-Marc Navenot, PhD, Marcello Villanova, MD, Brigitte Lucas-Héron, PhD, Alessandro Malandrini, MD, Dominique Blanchard, PhD, and Jean-Pierre Luboutin, MD, PhD

- 97 **Case of the Month: Dejerine-Sottas Neuropathy in Mother and Son with Same Point Mutation of PMP22 Gene**

Victor V. Ionasescu, MD, Charles C. Searby, BS, Rebecca Ionasescu, MD, Sansnee Chatkupt, MD, Nitin Patel, MD, and Richard Koenigsberger, MD

SHORT REPORTS

- 100 **Adult Botulism**
Barbara E. Shapiro, MD, PhD, Oscar Soto, MD, Saad Shafgat, MD, PhD, and Hal Blumenfeld, MD, PhD
- 103 **Pancreatic Adenocarcinoma Presenting as a Monomelic Motor Neuropathy**
Gregory T. Carter, MD, and Russell C. Fritz, MD
- 106 **Zidovudine and Human Immunodeficiency Virus-Associated Peripheral Neuropathies: Low Intake in Patients with Mononeuropathy Multiplex and No Evidence for Neurotoxicity**
Jean-Pascal Lefaucheur, MD, François-Jérôme Authier, MD, Josette Verroust, MD, and Romain K. Gherardi, MD
- 110 **The Effects of Shounousui on the Three Responses of the Blink Reflex in Man**
Fidias E. Leon-S, MD, PhD, Kimiyoshi Arimura, MD, PhD, Shugo Suwazono, MD, PhD, Yumiko Arimura, MD, and Mitsuhiro Osame, MD, PhD
- 113 **An Electrophysiological Demonstration of Polysegmental Innervation in the Lumbar Medial Paraspinal Muscles**
Peter B.J. Wu, MD, MPH, Wade S. Kingery, MD, Meriwether L. Frazier, MD, and Elaine S. Date, MD
- 116 **The Assessment of Diabetic Polyneuropathy in Daily Clinical Practice: Reproducibility and Validity of Semmes Weinstein Monofilaments Examination and Clinical Neurological Examination**
Gerlof D. Valk, MD, Jeroen J.J. de Sonnaville, MD, William H. van Houtum, MD, Robert J. Heine, MD, PhD, Jacques T.M. van Eijk, PhD, Lex M. Bouter, PhD, and Frederik W. Bertelsmann, MD, PhD

REGULAR FEATURES

- 199 **Letters to the Editor**
- 124 **Book Review**
- 125 **Calendar of Events**
- 127 **AAEM News and Comments**

FEBRUARY 1997

- 133 **Elwood Henneman**
Robert R. Young, MD

MAIN ARTICLES

- 136 **The Current Place of High-Dose Immunoglobulins in the Treatment of Neuromuscular Disorders**
Frans G.A. van der Meché, MD, PhD, and Pieter A. van Doorn, MD, PhD
- 148 **A Special Kind of Anterior Horn Cell Involvement in Juvenile Myoclonic Epilepsy Demonstrated by Macro Electromyography**
Mustafa Ertaş, MD, Burhanettin Uludağ, MD, Nilgün Araç, MD, Cumhur Ertekin, MD, and Erik Stålberg, MD, PhD
- 153 **Evaluation of Carpal Tunnel Syndrome in Patients with Polyneuropathy**
Thomas Vogt, MD, Annette Mika, MD, Frank Thömke, MD, and Hanns Christian Hopf, MD
- 158 **Macrophages and Dendritic Cells in Normal and Regenerating Murine Skeletal Muscle**
Arjang Pimorady-Esfahani, BScHons, Miranda D. Grounds, BSc, PhD, and Paul G. McMenamin, BSc, PhD, MSc, (Med Sci)
- 167 **Loss of Twitch Torque Following Muscle Compression**
Timothy Brown, BA, Victoria Galea, PhD, and Alan McComas, MB

- 172 **Functional Effects of Uridine Triphosphate on the Atrophied Soleus Muscle of Rat After Unloading**
Maurice Falempin, PrU, Soumeiya Fodili, PhD, Damien Leterme, PhD, and Yvonne Mounier, PrU
- 179 **A Longitudinal Study Comparing Thenar Motor Unit Number Estimates to Other Quantitative Tests in Patients with Amyotrophic Lateral Sclerosis**
Kevin J. Felice, DO
- 186 **Expression of Nerve-Regulated Genes in Muscles of Mouse Mutants Affected by Spinal Muscular Atrophies and Muscular Dystrophies**
Fariba Sedehizade, Rainer Klocke, PhD, and Harald Jockusch, PhD
- 195 **Temperature-Sensitive Repetitive Discharges in Paramyotonia Congenita**
Michael D. Weiss, MD, and Richard F. Mayer, MD
- 198 **Quantitative Sensory Testing**
David Yarnitsky, MD
- 205 **Clinical and Prognostic Features in Unilateral Femoral Neuropathies**
Thierry Kuntzer, MD, Guy van Melle, PhD, and Franco Regli, MD
- 212 **Motor Unit Forces and Recruitment Patterns After Cervical Spinal Cord Injury**
Christine K. Thomas, PhD, James G. Broton, PhD, and Blair Calancie, PhD
- 221 **Case of the Month: Maternally Inherited Cardiomyopathy: A New Phenotype Associated with the A to G at nt.3243 of Mitochondrial DNA (MELAS Mutation)**
Gabriella Silvestri, MD, Enrico Bertini, MD, Serenella Servidei, MD, Michele Rana, MD, Elisabetta Zachara, MD, Enzo Ricci, MD, and Pietro Tonali, MD

SHORT REPORTS

- 226 **Motor Evoked Potentials in the Spinocerebellar Ataxias Type 1 and Type 3**
Ludger Schöls, MD, Georgios Amoiridis, MD, Mathias Langkafel, MD, Stephan Schöls, and Horst Przuntek, MD
- 229 **Painful Neuropathy After Diffuse Herpes Zoster**
Mauro Mondelli, MD, Chiara Scarpini, MD, Alessandro Malandrini, MD, and Clara Romano, MD
- 232 **Effects of CTG Trinucleotide Repeat Expansion in Leukocytes on Quantitative Muscle Histopathology in Myotonic Dystrophy**
Hideo Tohgi, MD, Kimiaki Utsugisawa, MD, Atsushi Kawamori, MD, Munehisa Yamagata, MD, Koh Saitoh, MD, and Kohzo Hashimoto, PhD
- 235 **The Exercise Test Distinguishes Proximal Myotonic Myopathy from Myotonic Dystrophy**
Howard W. Sander, MD, George P. Tavoulareas, DO, Christine M. Quinto, MD, Daniel M. Menkes, MD, and Sudhansu Chokroverty, MD
- 238 **Lipoamide Dehydrogenase Deficiency: A New Cause for Recurrent Myoglobinuria**
O.N. Elpeleg, MD, A.B. Saada, PhD, A. Shaag, MSc, J.Z. Glustein, MD, W. Ruitenbeek, PhD, I. Tein, MD, and J. Halevy, MD
- 241 **Root Mean Square Voltage/Turns in Chronic Neuropathies Is Related to Increase in Fiber Density**
M.A. Fisher, MD
- 244 **Treatment of Idiopathic Lumbosacral Plexopathy with Intravenous Immunoglobulin**
William J. Triggs, MD, Michael S. Young, MD, Thomas Eskin, MD, and Edward Valenstein, MD
- 247 **Electromyographic Changes in Vastus Lateralis During Dynamic Exercise**
Yves Jammes, MD, DSci, Marie Caroline Zattara-Hartmann, MD, François Caquelard, MD, Sophie Arnaud, MD, and Charles Tomei, PhD

REGULAR FEATURES

- 250 **Letters to the Editor**
- 255 **Book Review**
- 256 **Books Received**
- 257 **Calendar of Events**
- 259 **AAEM News and Comments**

MAIN ARTICLES

- 265 **Pain-Evoked Blink Reflex**
Jens Ellrich, MD, Burkhardt Bromm, MD, PhD, and Hanns C. Hopf, MD
- 271 **Myoclonus Epilepsy Associated with Ragged-Red Fibers: A G-to-A Mutation at Nucleotide Pair 8363 in Mitochondrial tRNA^{Leu} in Two Families**
Matsuko Ozawa, MD, Ichizo Nishino, MD, Satoshi Horai, PhD, Ikuya Nonaka, MD, and Yu-Ichi Goto, MD
- 279 **Utilization of Intraoperative Electroneurography to Understand the Innervation of the Trapezius Muscle**
Subhadra Nori, MD, Kee Chee Soo, MD, Ronald F. Green, MD, Elliot W. Strong, MD, and Saul Miodownik, MEE, CEE
- 286 **Childhood-Onset Autosomal-Dominant Limb-Girdle Muscular Dystrophy with Cardiac Conduction Block**
Wan Fang, MD, Chin-Chang Huang, MD, Nai-Shin Chu, MD, PhD, Chi-Jen Chen, MD, Chin-Song Lu, MD, and Chun-Chieh Wang, MD
- 293 **Study of Single Motor Unit Discharge Patterns Using 1/F Process Model**
Jianjun Fang, MS, Bhagwan T. Shahani, MD, DPhil(Oxon), FACP, and Francis L. Bruyninckx, MD
- 299 **Antibodies to Potassium Channels of PC12 in Serum of Isaacs' Syndrome: Western Blot and Immunohistochemical Studies**
Kimiyoshi Arimura, MD, Osamu Watanabe, MD, Isao Kitajima, MD, Masahito Suehara, MD, Seiichi Minato, MD, Yoshito Sonoda, MD, Itsuro Higuchi, MD, Satoshi Takenaga, MD, Ikuro Maruyama, MD, and Mitsuhiro Osame, MD
- 306 **The Reorganization of Motor Units in Motor Neuron Disease**
Barbara Emeryk-Szajewska, Prof., MD, Jerzy Kopeć, PhD, and Anna Karwanska, PhD
- 316 **Acute Quadriplegic Myopathy: Analysis of Myosin Isoforms and Evidence for Calpain-Mediated Proteolysis**
Carol J. Showalter, MD, and Andrew G. Engel, MD
- 323 **The Characteristic Electrodiagnostic Features of Kennedy's Disease**
Mark A. Ferrante, MD, and Asa J. Wilbourn, MD
- 330 **The Use of Upper Extremity Anthropometrics in the Clinical Assessment of Patients with Amyotrophic Lateral Sclerosis**
Edward J. Kasarskis, MD, PhD, Susan Berryman, BS, RD, Tony English, MS Ed, PT, John Nyland, Ed D, PT, Jennifer G. Vanderleest, MS, Andrew Schneider, BS, Rolando Berger, MD, and Craig McClain, MD
- 336 **Adenosine Triphosphate Production Rates, Metabolic Economy Calculations, pH, Phosphomonoesters, Phosphodiesteres, and Force Output During Short-Duration Maximal Isometric Plantar Flexion Exercises and Repeated Maximal Isometric Plantar Flexion Exercises**
Bradley R. Newcomer, PhD, and Michael D. Boska, PhD
- 347 **Case of the Month: Multifocal Motor Neuropathy Presenting as Ophthalmoplegia**
C.E. Pringle, MD, FRCPC, J. Belden, MD, J.E. Veitch, REMGT, and W.F. Brown, MD, FRCPC
- 352 **Issues & Opinions: Written Informed Consent for Electrodiagnostic Testing: Pro and Con**
Robert G. Miller, MD, and Lois M. Nora, MD, JD

SHORT REPORTS

- 357 **Age-Related Changes in Muscle Calcium Content in Dystrophin-Deficient mdx Mice**
Joanne L. Reeve, B, Clin Sci, Anne McArdle, BSc, PhD, and Malcolm J. Jackson, PhD, DSc, MRCPATH
- 361 **Influence of Surface Recording Electrode Placement on Nerve Action Potentials**
E. M. Raynor, MD, D.C. Preston, MD, and E.L. Logigian, MD
- 364 **The Rigid Spine Syndrome Due to Acid Maltase Deficiency**
Ricardo Fadic, MD, Andrew J. Waclawik, MD, Benjamin R. Brooks, MD, and Barend P. Lotz, MD

- 367 Multicore Myopathy Presenting in Adulthood with Respiratory Failure**
Adam Z.J. Zeman, DM, D.J. Dick, MD, J.R. Anderson, MA, S.W. Watkin, MD, I.E. Smith, MRCP, and J.M. Shneerson, DM
- 370 The Relative Value of Facial, Glossal, and Masticatory Muscles in the Electrodiagnosis of Amyotrophic Lateral Sclerosis**
D.C. Preston, MD, B.E. Shapiro, MD, PhD, E.M. Raynor, MD, and M.J. Kothari, DO
- 373 Quantitative Motor Unit Action Potential Analysis in Paraspinal Muscles**
Paul E. Barkhaus, MD, M. Isabel Periquet, MD, and Sanjeev D. Nandedkar, PhD
- 376 Familial Autosomal-Dominant Carpal Tunnel Syndrome Presenting in a 5-Year-Old-Case Report and Review of the Literature**
Andrew G. Vadasz, MD, Phillip F. Chance, MD, Leon G. Epstein, MD, and Jau-Shin Lou, MD, PhD
- 379 Respiratory Muscle Involvement in Severe Sarcoid Myositis**
C. Elizabeth Pringle, MD, FRCPC, and Catharine L. Dewar, MD, PhD, FRCPC
- 382 Analysis of Myopathy in a Placebo-Controlled Zidovudine Trial**
David M. Simpson, MD, Peter Slasor, MD, Urania Dafni, PhD, Joseph Berger, MD, Margaret A. Fischl, MD, and Colin Hall, MD
- 386 Muscle Involvement in Human Immunodeficiency Virus-Infected Patients Is Associated with Marked Selenium Deficiency**
Patrick Chariot, MD, Marie-Laure Dubreuil-Lemaire, MD, Jiang Yan Zhou, PhD, Bouchra Lamia, MSc, Laurence Dume, PharmD, Blandine Larcher, PharmD, Isabelle Monnet, MD, Yves Levy, MD, Alain Astier, PhD, and Romain Gherardi, MD
- REGULAR FEATURES**
- 390 Letters to the Editor**
- 398 Calendar of Events**
- 400 AAEM News and Comments**

APRIL 1997

- MAIN ARTICLES**
- 403 Propagation Velocity of Muscle Action Potentials in the Growing Normal Child**
J.-E. Malmström, MD, and L. Lindström, PhD
- 411 Familial Mixed Congenital Myopathy with Rigid Spine Phenotype**
Heinz Reichmann, MD, Hans H. Goebel, MD, Christiane Schneider, MD, and Klaus V. Toyka, MD
- 418 Cortical Mechanisms Mediating the Inhibitory Period After Magnetic Stimulation of the Facial Motor Area**
G. Cruccu, MD, M. Inghilleri, MD, PhD, A. Berardelli, MD, A. Romaniello, and M. Manfredi, MD
- 425 Monomelic Amyotrophy Following Trauma and Immobilization in Children**
Guillermo Paradiso, MD
- 431 Nerve, Muscle, and Neuromuscular Junction Electrophysiology at High Temperature**
Seward B. Rutkove, MD, Milind J. Kothari, DO, and Jeremy M. Shefner, MD, PhD
- 437 Increase in the Proliferative Capacity of Human Myoblasts by Using the T Antigen Under the Vimentin Promoter Control**
Isabelle Deschênes, MSc, Mohamed Chahine, PhD, Jacques Tremblay, PhD, Denise Paulin, PhD, and Jack Puymirat, MD, PhD
- 446 Electrodiagnostic Findings Related to Anti-GM1 and Anti-GQ1b Antibodies in Guillain-Barré Syndrome**
Bart C. Jacobs, MD, Jan Meulstee, MD, PhD, Pieter A. van Doorn, MD, PhD, and Frans G. A. van der Meché, MD, PhD
- 453 Limb Girdle Muscular Dystrophy: A Prospective Follow-Up Study of Functional Impairment**
Joerg-Patrick Stübgen, MB, ChB, MMed(Neuro), FCP(SA), FRCP(C), MD(Pret), and Annette Stipp, B Arb(Pret)

- 461 Motor Unit Number Estimation by Spatial-Temporal Summation of Single Motor Unit Potentials**
Jianjun Fang, MS, Bhagwan T. Shahani, MD, D Phil(Oxon), FACP, and Daniel Graupe, PhD
- 469 Myoblast Implantation in Duchenne Muscular Dystrophy: The San Francisco Study**
R.G. Miller, MD, K.R. Sharma, MD, G.K. Pavlath, PhD, E. Gussoni, PhD, M. Mynhier, BS, P. Yu, BS, A.M. Lancot, BS, C.M. Greco, MD, L. Steinman, MD, and H.M. Blau, PhD
- 479 Muscle Hypertrophy in Multifocal Motor Neuropathy Is Associated with Continuous Motor Unit Activity**
Colin P. O'Leary, MRCP, A. Cameron Mann, MRCP, Jane Lough, MCSP, and Hugh J. Willison, MRCP, PhD
- 486 Coagulation and Vascular Abnormalities in Crow-Fukase Syndrome**
Kyoko Saido, MD, Hideji Kawakami, MD, Mitsuhiro Ohta, PhD, and Kyoko Iwamura, MA
- 493 Case of the Month: Stiff-Persons' Syndrome Associated with Thymoma and Subsequent Myasthenia Gravis**
Anthony P. Nicholas, MD, PhD, Anjan Chatterjee, MD, Muoi M. Arnold, MD, Gwendolyn C. Claussen, MD, George L. Zorn, Jr, MD, and Shin J. Oh, MD

SHORT REPORTS

- 499 Motor Unit Number Estimates and Quantitative Muscle Strength Measurements of Distal Muscles in Patients with Amyotrophic Lateral Sclerosis**
Carmel Armon, MD, Murray E. Brandstater, MBBS, PhD, and Gordon W. Peterson, MD
- 502 Reversible Severe Myopathy During Treatment with Finasteride**
Joost Haan, MD, PhD, Justus M.R. Hollander, PharmD, Sjoerd G. van Duinen, MD, PhD, Pramod R. Saxena, MD, PhD, and Axel R. Wintzen, MD, PhD
- 505 A Positron Emission Tomography Study of Voluntarily and Electrically Contracted Human Quadriceps**
Marc Vanderthommen, PhD, Jean-Claude Depresseux, MD, PhD, Philippe Bauvir, PT, Christian Degueudre, PhD, Guy Delfiore, PhD, Jean-Marie Peters, PhD, Francis Sluse, PhD, and Jean-Michel Crielaard, MD, PhD
- 508 Strength-Duration Properties of Sensory and Motor Axons in Carpal Tunnel Syndrome**
Ilona Mogyoros, MD, Matthew C. Kiernan, MB, BS, and David Burke, MD, DSc
- 511 Longitudinal Tracking of the Same Single Motor Unit in Amyotrophic Lateral Sclerosis**
Clifton L. Gooch, MD, and Yadollah Harati, MD
- 514 Guillain-Barré Syndrome with Severe Demyelination Mimicking Axonopathy**
Saeed A. Bohlega, MD, Bent Stigsby, MD, PhD, A. Haider, MD, and Donald McLean, MD
- 517 Motor Neuron Disease Presenting As Acute Respiratory Failure: Electrophysiological Studies**
Robert Chen, MBBChir, MSc, FRCPC, François Grand'Maison, MD, FRCPC, John D. Brown, MD, FRCPC, and Charles F. Bolton, MD, FRCPC

REGULAR FEATURES

- 520 Letters to the Editor**
- 525 Book Review**
- 526 Calendar of Events**
- 528 AAEM News and Comments**
- 534 Erratum**

MAY 1997

MAIN ARTICLES

- 535 Interhemispheric Differences of Hand Muscle Representation in Human Motor Cortex**
Paola Cicinelli, MD, Raimondo Traversa, MD, Andrea Bassi, MD, Giorgio Scivoletto, MD, and Paolo Maria Rossini, MD

- 543 Cytokines and the Pathogenesis of Myasthenia Gravis**
Guang-Xian Zhang, MD, PhD, Vaidirius Navikas, MD, PhD, and Hans Link, MD, PhD
- 552 Validity of Electromyograms and Tension as a Means of Motor Unit Number Estimation**
Keisuke Arasaki, MD, PhD, Mitsuyuki Tamaki, MD, PhD, Yasuhiko Hosoya, PhD, and Norio Kudo, MD, PhD
- 561 Sequential Muscle Biopsy Changes in a Case of Congenital Myopathy**
Moris J. Danon, MD, Carol S. Giometti, PhD, Jose R. Manaligod, MD, PhD, and Charles Swisher, MD
- 570 Corticomotor Threshold to Magnetic Stimulation: Normal Values and Repeatability**
Kerry R. Mills, PhD, FRCP, and Kannan A. Nithi, MB, MRCP
- 577 Nonenzymatic Glycation of Peripheral and Central Nervous System Proteins in Experimental Diabetes Mellitus**
Catherine Ryle, PhD, C.K. Leow, FRCS, and Michael Donaghy, FRCP
- 585 Satellite Potentials as a Measure of Neuromuscular Disorders**
J. Finsterer, MD, PhD, and B. Mamoli, MD
- 593 Treatment of Occupational Cramp with Botulinum Toxin: Diffusion of Toxin to Adjacent Noninjected Muscles**
Marjorie H. Ross, MD, Michael E. Charness, MD, Lewis Sudarsky, MD, and Eric L. Logigian, MD
- 599 Case of the Month: Familial Limb-Girdle Myasthenia with Tubular Aggregates**
Eisuke Furui, MD, Koji Fukushima, MD, Toshio Sakashita, MD, Shunichi Sakato, MD, Shiro Matsubara, MD, PhD, and Masaharu Takamori, MD

SHORT REPORTS

- 604 Dissociated Changes in Fatigue Resistance and Characteristics of M Waves and Twitches in a Fast Muscle Group After Two Weeks of Chronic Stimulation: Influence of the Stimulation Patterns**
Ghislaine Vuillon-Cacciuttolo, DesSci, Francis Berthelin, MesSci, and Yves Jammes, MD, DesSci
- 608 Two Siblings with Nerve Conduction Abnormalities Indicating an Acquired Type of Demyelinating Neuropathy**
Akira Inaba, Takanori Yokota, Toshiaki Shiojiri, and Masahito Yamada
- 611 Truncal Sensory Loss in Acquired Demyelinating Neuropathies**
Amilton A. Barreira, MD, PhD, and Wilson Marques, Jr., MD, PhD
- 614 Treatment of Lambert-Eaton Syndrome with Intravenous Immunoglobulin**
Mark M. Rich, MD, PhD, James W. Teener, MD, and Shawn J. Bird, MD
- 616 Bilateral Bulbocavernosus Reflexes: Crossing of Nerve Pathways or Artifact?**
Emanuel Rechthand, MD
- 619 Inflammatory Myopathy After Intravenous Streptokinase**
Antonio Di Muzio, MD, Giovanni Di Guglielmo, MD, Claudio Feliciani, MD, Giovanna De Luca, MD, Marcello Di Muzio, MD, and Antonino Uncini, MD
- 622 Differences in CTG Triplet Repeat Expansions in an Ovarian Cancer and Cyst from a Patient with Myotonic Dystrophy**
Masanobu Kinoshita, MD, Akira Igarashi, MD, Tetsuo Komori, MD, Hirokazu Tamura, MD, Masatoshi Hayashi, MD, Katsuyuki Kinoshita, MD, PhD, Takeo Deguchi, MD, and Kazuhiko Hirose, MD, PhD
- 625 Characteristic Morphologic Manifestation of CADASIL, Cerebral Autosomal-Dominant Arteriopathy with Subcortical Infarcts and Leukoencephalopathy, in Skeletal Muscle and Skin**
Hans H. Goebel, MD, Richard Meyermann, MD, Regina Rosin, MD, and Wolfgang Schlote, MD

REGULAR FEATURES

- 528 Letters to the Editor**
- 633 Book Review**
- 634 Calendar of Events**
- 636 AAEM News and Comments**
- 650 Erratum**

MAIN ARTICLES

- 651 Invited Review: Treatment of Inflammatory Myopathies**
Frank L. Mastaglia, MD, FRCP, FRACP, Beverley A. Phillips, Dip Phty, PGrad Hlth Sci, and Paul Zilko, MBBS, FRACP, FRCPA
- 665 Direct Muscle Stimulation in Acute Quadriplegic Myopathy**
Mark M. Rich, MD, PhD, Shawn J. Bird, MD, Eric C. Raps, MD, Leo F. McCluskey, MD, and James W. Teener, MD
- 674 Long-Term Follow-Up of Lambert-Eaton Syndrome Treated with Intravenous Immunoglobulin**
Salomon Muchnik, MD, PhD, Adriana S. Losavio, MD, PhD, Alfredo Vidal, MD, Leila Cura, MD, and Claudio Mazia, MD
- 679 Age-Related Changes in Motor Unit Function**
Martin R. Roos, BSc, Charles L. Rice, PhD, and Anthony A. Vandervoort, PhD
- 691 Reliability of Maximal Voluntary Isometric Contraction Testing in a Multicenter Study of Patients with Amyotrophic Lateral Sclerosis**
Rebecca J. Hoagland, MS, Michelle Mendoza, PT, Carmel Armon, MD, Richard J. Barohn, MD, Wilson W. Bryan, MD, Jessie C. Goodpasture, PhD, Robert G. Miller, MD, Gareth J. Parry, MD, Jack H. Petajan, PhD, MD, Mark A. Ross, MD, and THE SYNTAX/SYNERGEN NEUROSCIENCE JOINT VENTURE rhCNTF ALS STUDY GROUP
- 696 Single-Fiber Electromyography, Nerve Conduction Studies, and Conventional Electromyography in Patients with Critical-Illness Polyneuropathy: Evidence for a Lesion of Terminal Motor Axons**
Johannes Schwarz, MD, Johannes Planck, MD, Josef Briegel, MD, and Andreas Straube, MD
- 702 Expression of Fas Antigen Is Not Associated with Apoptosis in Human Myopathies**
Akira Inukai, MD, Yasushi Kobayashi, MD, PhD, Keita Ito, MD, PhD, Manabu Doyu, MD, PhD, Akemi Takano, MD, Hitoshi Honda, MD, PhD, and Gen Sobue, MD, PhD
- 710 Depression of Human Electromyographic Activity by Fatigue of a Synergistic Muscle**
Paul Sacco, PhD, Rebecca Newberry, Laara McFadden, MSc, Timothy Brown, BA, and Alan J. McComas, MB
- 718 The Effect of Autografting on the Myosin Composition in Skeletal Muscle Fibers**
Jaanus Järva, MSc, Karin Alev, MSc, and Teet Seene, PhD
- 728 Dystrophin Gene Transcripts Skipping the mdx Mutation**
Stephen D. Wilton, PhD, Danielle E. Dye, BSc, and Nigel G. Laing, PhD
- 735 Case of the Month: Stimulated Single-Fiber Electromyography in Lambert-Eaton Myasthenic Syndrome Before and After 3,4-Diaminopyridine**
Menachem Sadeh, MD, Yaron River, MD, and Zohar Argov, MD

SHORT REPORTS

- 740 Peripheral Nerve Dysfunction Is Reflected By Loss of Ankle Reflexes but Not By Autonomic Neuropathy in Diabetic Patients**
G. Sundkvist, MD, PhD, B. Lilja, MD, PhD, H. Nilsson, MD, J.-Å. Nilsson, BA, and I. Rosén, MD, PhD
- 744 Reinnervation and Regeneration of Denervated Rat Soleus Muscles**
Lynn Billington, PhD
- 747 Acute Infantile Weakness: A Case of Vaccine-Associated Poliomyelitis**
William S. David, MD, PhD, and John J. Doyle, MD
- 750 Progression of Paclitaxel-Induced Neuropathy Following Discontinuation of Treatment**
Martin J. van den Bent, MD, PhD, Vivian J. M. van Raaij-van den Aarssen, Jaap Verweij, MD, PhD, Pieter A. V. Doorn, MD, PhD, and Peter A. E. Sillevius Smitt, MD, PhD
- 753 Striational Autoantibodies in Myasthenia Gravis Mainly React with Ryanodine Receptor**
Kazuo Iwasa, MD

757 Intra-Aortic Injection of Myoblasts in mdx Mice: Genetic and Technetium-99m Cell Labeling and Biodistribution

Nereo Bresolin, MD, Carlo D. Ausenda, MD, Rosangela Casati, PhD, Yvan Torrente, MD, Alberto DeLiso, MD, Maria Grazia D'Angelo, MD, Riccardo Benti, MD, Maurizio Moggio, MD, Sonia Baldessari, PhD, Giacomo P. Comi, MD, Fabio Colombo, PhD, Paolo Gerundini, MD, and Guglielmo Scarlato, MD

760 Association Between Internalized Nuclei and Mitochondrial Enzyme Defects in Muscle

Georgirene D. Vladutiu, PhD, and Sebu Idiculla, BA

**REGULAR
FEATURES**

764 Letters to the Editor

769 Calendar of Events

771 AAEM News and Comments

JULY 1997

MAIN ARTICLES

777 Facts, Fallacies, and Fancies of Nerve Conduction Studies: Twenty-First Annual Edward H. Lambert Lecture

Jun Kimura, MD

788 Contractile Properties of Human Thenar Muscles Paralyzed by Spinal Cord Injury

Christine K. Thomas, PhD

800 Detection of Antibody Classes and Subpopulations in Myasthenia Gravis Patients Using a New Nonradioactive Enzyme Immunoassay

C. Gotti, PhD, B. Balestra, R. Mantegazza, MD, S. Tzartos, MD, M. Moretti, and F. Clementi, PhD

809 Autonomic Evaluation by Means of Standard Tests and Power Spectral Analysis in Multiple Sclerosis

Dieter Linden, MD, Rolf R. Diehl, PhD, Anke Kretzschmar, MD, and Peter Berlit, MD

815 The Role of Leukemia Inhibitory Factor in Skeletal Muscle Regeneration

John B. Kurek, PhD, John J. Bower, PhD, Margarita Romanella, MSc, Frank Koentgen, PhD, Mark Murphy, PhD, and Lawrence Austin, PhD

823 Magnetic Nerve Root Stimulation in Two Types of Brachial Plexus Injury: Segmental Demyelination and Axonal Degeneration

A. Emre Öge, MD, Ari Boyacıyan, MD, Hakan Gürvit, MD, Jale Yazici, MD, Melahat Değirmenci, MD, and Evin Kantemir, MD

833 Mitochondrial Dysfunction with Myoclonus Epilepsy and Ragged-Red Fibers Point Mutation in Nerve, Muscle, and Adipose Tissue of a Patient with Multiple Symmetric Lipomatosis

Markus Naumann, MD, Reinhard Kiefer, MD, Klaus V. Toyka, MD, Claudia Sommer, MD, Peter Seibel, PhD, and Heinz Reichmann, MD

840 Binding of Antibodies Against GM1 and GD1b in Human Peripheral Nerve

Susumu Kusunoki, MD, Hiromi Mashiko, Noriko Mochizuki, Atsuro Chiba, MD, Masanobu Arita, PhD, Seiji Hitoshi, MD, and Ichiro Kanazawa, MD

846 Fulminant Guillain-Barré Syndrome with Universal Inexcitability of Peripheral Nerves: A Clinicopathological Study

José Berciano, MD, Javier Figols, MD, Antonio García, MD, Ester Calle, MD, Isabel Illa, MD, Miguel Lafarga, MD, and María T. Berciano, MD

858 The Effect of Duration of Muscle Denervation on Functional Recovery in the Rat Model

Jun Kobayashi, MD, Susan E. Mackinnon, MD, Osamu Watanabe, MD, PhD, Douglas J. Ball, MD, Xiao Ming Gu, MD, PhD, Daniel A. Hunter, RT, and William M. Kuzon, Jr, MD, PhD

867 Motor Unit Recruitment and Discharge Behavior in Movements and Isometric Contractions

T. Ivanova, PhD, S.J. Garland, PhD, and K.J. Miller, MSc

- 875 **Peptides and Neuromas: Calcitonin Gene-Related Peptide, Substance P, and Mast Cells in a Mechanosensitive Human Sural Neuroma**

Douglas W. Zochodne, Michele Theriault, Keith A. Sharkey, Chu Cheng, and Garnette Sutherland

- 881 **Case of the Month: Moving Toes and Myoclonus Associated with Hereditary Neuropathy with Liability to Pressure Palsy (HNPP)**

Aziz Shaibani, MD, Clifton Gooch, MD, and Yadollah Harati, MD, FACP

SHORT REPORTS

- 884 **Cutaneous Silent Period in Syringomyelia**

Kazuo Kaneko, MD, Shinya Kawai, MD, Yasunori Fuchigami, MD, Hideki Morita, MD, and Akira Ofuji, MD

- 887 **Recognition of the Martin-Gruber Anastomosis**

J. Gert van Dijk, MD, PhD, and Paul A.D. Bouma, MD

- 890 **Selective Ipsilateral Neuromuscular Involvement in a Case of Facial and Somatic Hemiatrophy**

Alessandro Malandrini, MD, Maria Teresa Dotti, MD, and Antonio Federico, MD

- 893 **Nemaline Rod and Central Core Disease: A Coexisting Z-Band Myopathy**

Chinnamma Thomas, MD

- 897 **Neuromuscular Compartments in the Long Head of Triceps: A Morphological Study in Rabbits**

Jie Liu, MD, V. Prem Kumar, MBBS, FRCS, Hui-King Lau, BEng, Barry P. Pereira, MEng, Yan Shen, MD, and Robert W.H. Pho, MBBS, FRCS

- 900 **Phrenic Nerve Palsies and Persistent Respiratory Acidosis in a Patient with Diabetes Mellitus**

Morris A. Fisher, MD, David J. Leehey, MD, Vasant Gandhi, MD, and Todd Ing, MD

- 903 **Intraoperative Electrodiagnostic Testing During Cross-Chest C7 Nerve Root Transfer**

Neil R. Holland, MB, BS, and Allan J. Belzberg, MD

REGULAR FEATURES

- 906 **Letters to the Editor**

- 911 **Books Received**

- 912 **Calendar of Events**

- 914 **AAEM News and Comments**

AUGUST 1997

MAIN ARTICLES

- 919 **AAEM Minimonograph #48: Autonomic Nervous System Testing**

John M. Ravits, MD

- 938 **Firing Rate of the Lower Motoneuron and Contractile Properties of Its Muscle Fibers After Upper Motoneuron Lesion in Man**

Walter R. Frontera, MD, PhD, Lennart Grimby, MD, PhD, and Lars Larsson, MD, PhD

- 948 **Contractile Studies of Single Human Skeletal Muscle Fibers: A Comparison of Different Muscles, Permeabilization Procedures, and Storage Techniques**

Walter R. Frontera, MD, PhD, and Lars Larsson, MD, PhD

- 953 **Degeneration of Cocultures of Spinal Muscular Atrophy Muscle Cells and Rat Spinal Cord Explants Is Not Due to Secreted Factors and Cannot Be Prevented by Neurotrophins**

Serge Braun, PhD, Bernard Croizat, PhD, Marie-Claude Lagrange, PhD, Philippe Poindron, PhD, and Jean-Marie Warter, MD

- 961 **Slowly Conducting, Low-Threshold Components of Sensory Nerve Potentials in Peripheral Neuropathy: A Microneurographic Study**

Satoshi Kuwabara, MD, Hitoshi Nagase, Kimihito Arai, MD, and Takamichi Hattori, MD

- 969 **Detection of *Borrelia burgdorferi* DNA and Complement Membrane Attack Complex Deposits in the Sural Nerve of a Patient with Chronic Polyneuropathy and Tertiary Lyme Disease**

Davide Maimone, MD, PhD, Marcello Villanova, MD, PhD, Giorgio Stanta, MD, Serena Bonin, MD, Alessandro Malandrini, MD, Gian Carlo Guazzi, MD, and Pasquale Annunziata, MD

- 976 **Decomposition-Enhanced Spike-Triggered Averaging: Contraction Level Effects**
Robin A. Conwit, MD, Brian Tracy, MS, Chris Jamison, MS, PT, Megan McHugh, MS, Dan Stashuk, PhD, PEng, William F. Brown, MD, FRCP, and E. Jeffrey Metter, MD
- 983 **Effects of Long-Term Low-Dose Methylprednisolone on Rat Diaphragm Function and Structure**
Roland H.H. van Balkom, P.N. Richard Dekhuijzen, Hans T.M. Folgering, Jacques H. Veerkamp, Jack A.M. Fransen, and Cees L.A. van Herwaarden
- 991 **Time and Frequency Domain Analysis of Acoustic Signals from a Human Muscle**
Danmin Chen, MSc, Louis-Gilles Durand, PhD, and François Bellemare, PhD
- 1002 **Guillain-Barré Syndrome in Immunocompromised Patients: A Report of Three Patients and Review of the Literature**
Adnan I. Qureshi, MD, Albert A. Cook, MD, Husham P. Mishu, MD, and David A. Krendel, MD
- 1008 **Chronic Inflammatory Demyelinating Polyradiculoneuropathy in Children: I. Presentation, Electrodiagnostic Studies, and Initial Clinical Course, with Comparison to Adults**
Zachary Simmons, MD, John J. Wald, MD, and James W. Albers, MD
- 1016 **Regeneration-Blocked mdx Muscle: In Vivo Model for Testing Treatments**
John G. Quinlan, MD, Denise Cambier, MD, Sean Lyden, MD, Arif Dalvi, MD, Ram K. Upputuri, BS, Peter Gartside, PhD, Scott E. Michaels, PhD, and David Denman, PhD
- 1024 **Case of the Month: Krabbe's Disease Presenting as a Peripheral Neuropathy**
Harold G. Marks, MD, Mena T. Scavina, DO, Edwin H. Kolodny, MD, Michael Palmieri, PhD, and Judith Childs, PhD

SHORT REPORTS

- 1029 **Noninvasive Laser Neurolysis in Carpal Tunnel Syndrome**
Michael I. Weintraub, MD, FACP
- 1032 **Long-Term External Calcium Dependence of Autotransplanted and Sliced Extensor Digitorum Longus Muscle Contractility**
Jean-Pierre Louboutin, MD, PhD, Valérie Fichter-Gagnepain, MD, and Jacques Noireaud, PhD
- 1035 **Marked Improvement of Severe Polyneuropathy Associated with Multifocal Osteosclerotic Myeloma Following Surgery, Radiation, and Chemotherapy**
Francisco T. Rotta, MD, and Walter G. Bradley, DM, FRCP
- 1038 **Novel Measurement for Automated Interference Pattern Analysis of the Diaphragm**
Steven J. Collins, MD, Robert E. Chen, MB, Hussein Remtulla, BSc, Anthony Parkes, BSc, and Charles F. Bolton, MD
- 1041 **Flexor Digitorum Superficialis: Locations of Individual Muscle Bellies for Botulinum Toxin Injections**
Lauren E. Bickerton, BScPT, Anne M.R. Agur, BScOT, MSc, and Peter Ashby, MD, FRCP(C)

REGULAR FEATURES

- 1044 **Letters to the Editor**
- 1047 **Calendar of Events**
- 1049 **AAEM News and Comments**

SPECIAL FEATURE

- 1053 **Abstracts of Poster and Platform Presentations: 44th Annual Scientific Meeting American Association of Electrodiagnostic Medicine San Diego, California, September 19–September 20, 1997**

SEPTEMBER 1997

MAIN ARTICLES

- 1091 **Age-Related Susceptibility to Experimental Autoimmune Myasthenia Gravis: Immunological and Electrophysiological Aspects**
Astrid C. Hoedemaekers, MD, Jan J. Verschuuren, MD, PhD, Frank Spaans, MD, PhD, Yvo F. Graus, PhD, Sietske Riemersma, BS, Peter J. van Breda Vriesman, MD, PhD, and Marc H. De Baets, MD, PhD

- 1102 Effect of High-Dose Intravenous Immunoglobulin on Serum Chemistry, Hematology, and Lymphocyte Subpopulations: Assessments Based on Controlled Treatment Trials in Patients with Neurological Diseases**
Boyd M. Koffman, MD, PhD, and Marinos C. Dalakas, MD
- 1108 Magnetic Stimulation Excites Skeletal Muscle Via Motor Nerve Axons in the Cat**
Peter H. Ellaway, PhD, Steve R. Rawlinson, PhD, Helen S. Lewis, PhD, Nick J. Davey, PhD, and David W. Maskill, M. Phil
- 1115 Changes in Skeletal Muscle Histology and Metabolism in Patients Undergoing Exercise Deconditioning: Effect of Propionyl-L-Carnitine**
Gregorio Brevetti, MD, Marina Fanin, MS, Vincenzo De Amicis, MD, Rosalba Carrozzo, MS, Francesco Di Lello, MD, Vincenzo Domenico Martone, MD, and Corrado Angelini, MD
- 1121 GAA Trinucleotide Repeat Expansion in Variant Friedreich's Ataxia Families**
Antonio Cruz-Martínez, MD, PhD, Buenaventura Anciones, MD, and Francesc Palau, MD, PhD
- 1127 Spheroid Body Myopathy Revisited**
Hans H. Goebel, MD, Anthony N. D'Agostino, MD, Jacob Wilson, MD, George Cole, AB, HT, Tatiana Foroud, PhD, Daniel Koller, PhD, Martin Farlow, MD, Biagio Azzarelli, MD, and Jans Muller, MD
- 1137 Corticomotor Threshold Is Reduced in Early Sporadic Amyotrophic Lateral Sclerosis**
Kerry R. Mills, PhD, FRCP, and Kannan A. Nithi, MB, MRCP
- 1142 Hemolytic Anemia Associated with Intravenous Immunoglobulin**
John R. Wilson, MD, Nirmala Bhoopalaram, MD, and Morris Fisher, MD
- 1146 Low-Dose Guanidine and Pyridostigmine: Relatively Safe and Effective Long-Term Symptomatic Therapy in Lambert-Eaton Myasthenic Syndrome**
Shin J. Oh, MD, Dae S. Kim, MD, Thomas C. Head, MD, and Gwen C. Claussen, MD
- 1153 Clinical Features of Perineuritis**
Eric J. Sorenson, MD, Anders A.F. Sima, MD, PhD, Mila Blaivas, MD, PhD, Kevin Sawchuk, MD, and John J. Wald, MD
- 1158 Changes in Corticomotor Excitation and Inhibition During Prolonged Submaximal Muscle Contractions**
Paul Sacco, PhD, Gary W. Thickbroom, PhD, Michelle L. Thompson, PhD, and Frank L. Mastaglia, MD
- 1167 Electromyography of the External Anal Sphincter in Patients with Parkinson's Disease and Multiple System Atrophy: Frequency of Abnormal Spontaneous Activity and Polyphasic Motor Unit Potentials**
Johannes Schwarz, MD, Malte Kornhuber, MD, Christian Bischoff, MD, and Andreas Straube, MD
- 1173 Case of the Month: Collet-Sicard Syndrome Mimicking Neuralgic Amyotrophy**
Wendy L. Larson, MD, Ahmad Beydoun, MD, James W. Albers, MD, PhD, and John J. Wald, MD

SHORT REPORTS

- 1178 Terminal Latency Index in the Carpal Tunnel Syndrome**
Drasko Simovic, MD, and David H. Weinberg, MD
- 1181 Amyotrophic Lateral Sclerosis in Mexico: Validation of Two Predictive Scales**
Enrique Otero-Siliceo, MD, and Nicasio Arriada-Mendicoa, MD
- 1184 Recurrent Polyradiculoneuropathy with the 17P11.2 Deletion**
Nadine Le Forestier, MD, Eric LeGuern, MD, PhD, Philippe Coullin, PhD, Nazha Birouk, MD, Thierry Maisonobe, MD, Alexis Brice, MD, Jean Marc Léger, MD, and Pierre Bouche, MD
- 1187 Influence of Stimulus Cross Talk on Results of the Twitch-Interpolation Technique at the Biceps Brachii Muscle**
Friedemann Awiszus, MD, Birger Wahl, MD, and Ingmar Meinecke, MD
- 1191 Electromyographic and Lower Extremity Short Time to Inversion Recovery Magnetic Resonance Imaging Findings in Lumbar Radiculopathy**
Gregory T. Carter, MD, and Russell C. Fritz, MD

- 1194 **Autosomal Dominant Centronuclear Myopathy: Report of a New Family with Clinical Features Simulating Facioscapulohumeral Syndrome**
Kevin J. Felice, DO, and Margaret L. Grunnet, MD
- 1197 **Correlation Between Muscle Metabolism and Changes in M-Wave and Surface Electromyogram: Dynamic Constant Load Leg Exercise in Untrained Subjects**
S. Arnaud, MD, M.C. Zattara-Hartmann, MD, Ch. Toméi, PhD, and Y. Jammes, MD
- 1200 **AAEM Practice Topics in Electrodiagnostic Medicine: Technology Review: Nervepace Digital Electroneurometer**
Vinay Chaudhry, MD

**REGULAR
FEATURES**

- 1204 **Letters to the Editor**
- 1209 **Book Review**
- 1210 **Calendar of Events**
- 1212 **AAEM News and Comments**

OCTOBER 1997

MAIN ARTICLES

- 1213 **Central Motor Drive Is Increased During Voluntary Muscle Contractions in Multiple Sclerosis**
Alexander V. Ng, PhD, Robert G. Miller, MD, and Jane A. Kent-Braun, PhD
- 1219 **Biochemical and Genetic Studies in a Family with Mitochondrial Myopathy**
Terry D. Heiman-Patterson, MD, Zohar Argov, MD, Jeffrey M. Chavin, MD, Bernadette Kalman, MD, PhD, Hansjuerg Alder, PhD, Salvatore DiMauro, MD, William Bank, MD, and Albert J. Tahmouh, MD
- 1225 **Concentric Needle Electrode Duration Measurement and Uptake Area**
Sanjeev D. Nandedkar, PhD, Daniel Dumitru, MD, and John C. King, MD
- 1229 **Summation of Extraocular Motor Unit Tensions in the Lateral Rectus Muscle of the Cat**
Stephen J. Goldberg, PhD, Kristi E. Wilson, PhD, and Mary S. Shall, PhD, PT
- 1236 **Sural/Radial Amplitude Ratio in the Diagnosis of Mild Axonal Polyneuropathy**
Seward B. Rutkove, MD, Milind J. Kothari, DO, Elizabeth M. Raynor, MD, Michele L. Levy, Ricardo Fadic, MD, and Rachel A. Nardin, MD
- 1242 **Safety and Efficacy of Strength Training in Patients with Sporadic Inclusion Body Myositis**
Sidney A. Spector, MD, PhD, Jeffery T. Lemmer, MS, Boyd M. Koffman, MD, PhD, T.A. Fleisher, MD, Irwin M. Feuerstein, MD, Ben F. Hurley, PhD, and Marinos C. Dalakas, MD
- 1249 **Abnormalities of Somatosensory and Motor Evoked Potentials in Adrenomyeloneuropathy: Comparison with Magnetic Resonance Imaging and Clinical Findings**
Domenico Restuccia, MD, Vincenzo Di Lazzaro, MD, Massimiliano Valeriani, MD, Antonio Oliviero, MD, Domenica Le Pera, MD, Carmen Barba, MD, Marco Cappa, MD, Enrico Bertini, MD, and Pietro Tonali, MD
- 1258 **Genetic Regulation of Slowly Progressing Mild Muscle Atrophy in Fast-Twitch Muscles of BUF/Mna Rats**
Hiroyuki Amo, PhD, Mitsuhiro Saito, BSc, Shizuko Nagao, PhD, Shigeru Yagi, PhD, Hisahide Takahashi, PhD, Hiroyuki Morita, MD, Takako Matsuyama Morita, MD, and Mutsushi Matsuyama, MD
- 1264 **Frequency-Dependent Conduction Delay of Motor-Evoked Potentials in Multiple Sclerosis**
Jørgen Feldbæk Nielsen, MD
- 1275 **Antibody Panels in Idiopathic Polyneuropathy and Motor Neuron Disease**
Gil I. Wolfe, MD, Waleed H. El-Feky, MD, Jonathan S. Katz, MD, Wilson W. Bryan, MD, Frank H. Wians, Jr., PhD, and Richard J. Barohn, MD

- 1284 Cluster of Wound Botulism in California: Clinical, Electrophysiologic, and Pathologic Study**
Ricardo A. Maselli, MD, William Ellis, MD, PhD, Raul N. Mandler, MD, Firdos Sheikh, MD, Grace Venton, BA, Stephen Knox, MD, Hamid Salari-Namin, MD, Mark Agius, MD, Robert L. Wollmann, MD, PhD, and David P. Richman, MD
- 1296 F-Wave Latency, the Most Sensitive Nerve Conduction Parameter in Patients with Diabetes Mellitus**
Henning Andersen, MD, Erik Stålberg, MD, PhD, and Björn Falck, MD, PhD
- 1303 Case of the Month: Chronic Relapsing Brachial Plexus Neuropathy with Persistent Conduction Block**
Anthony A. Amato, MD, Carlayne E. Jackson, MD, Joanne Y. Kim, MD, and Kay L. Worley, MD

SHORT REPORTS

- 1308 Severe Charcot-Marie-Tooth Neuropathy Type 1A with 1-Base Pair Deletion and Frameshift Mutation in the Peripheral Myelin Protein 22 Gene**
Victor V. Ionasescu, MD, Charles Searby, BS, Rebecca Ionasescu, MD, Ricardo Reisin, MD, Victor Ruggieri, MD, and Claudia Arberas, MD
- 1311 Temporal Summation in Muscles and Referred Pain Areas: An Experimental Human Study**
Lars Arendt-Nielsen, PhD, Thomas Graven-Nielsen, MSc, Peter Svensson, PhD, and Troels S. Jensen, PhD
- 1314 Nerve Expansion in Nerve Regeneration: Effect of Time on Induction of Ornithine Decarboxylase and Schwann Cell Proliferation**
S. Ohkaya, MD, H. Hibasami, PhD, H. Hirata, MD, H. Sasaki, MD, A. Morita, MD, M. Matsumoto, MD, A. Uchida, MD, PhD, and K. Nakashima, MD, PhD
- 1318 Corticosteroid Effects in Skeletal Muscle: Gene Induction/Receptor Autoregulation**
Lorraine I. McKay, PhD, Debra C. DuBois, PhD, Yu-Nien Sun, BSc, Richard R. Almon, PhD, and William J. Jusko, PhD
- 1321 Vacuolar Myopathies in Adults with Myalgias: Value of Paraspinal Muscle Investigation**
J. Terry Petrella, MD, Michael J. Giuliani, MD, and David Lacomis, MD
- 1324 A Case of Isaacs' Syndrome with Associated Central Nervous System Findings**
J. Ansell, MD, S. Kirby, MD, FRCP(C), and T. Benstead, MD, FRCP(C)
- 1328 Apoptosis Is Not the Mechanism of Cell Death of Muscle Fibers in Human Muscular Dystrophies and Inflammatory Myopathies**
Montserrat Olivé, MD, PhD, Juan Antonio Martínez-Matos, MD, PhD, Jordi Montero, MD, and Isidro Ferrer, MD, PhD

REGULAR FEATURES

- 1331 Letters to the Editor**
- 1337 Books Received**
- 1338 Calendar of Events**
- 1339 AAEM News and Comments**

NOVEMBER 1997

MAIN ARTICLES

- 1341 Postpolio Muscular Dysfunction: Relationships Between Muscle Energy Metabolism, Subjective Symptoms, Magnetic Resonance Imaging, Electromyography, and Muscle Strength**
Bengt Nordgren, MD, PhD, Björn Falck, MD, PhD, Erik Stålberg, MD, PhD, Gunnar Ronquist, MD, PhD, Anders Waldenström, MD, PhD, Håkan Ahlström, MD, PhD, and Anders Hemmingson, MD, PhD
- 1352 A ³¹P-Magnetic Resonance Spectroscopy and Biochemical Study of the mo^{vbr} Mouse: Potential Model for the Mitochondrial Encephalomyopathies**
Irene Tracey, DPhil, Jeff F. Dunn, PhD, and George K. Radda, DPhil, FRS

- 1360 Diagnostic Yield of Noninvasive High Spatial Resolution Electromyography in Neuromuscular Diseases**
Hans-Jürgen Huppertz, MD, Catherine Disselhorst-Klug, PhD, Jiri Silny, PhD, Günter Rau, PhD, and Gerhard Heimann, MD
- 1371 Acute Corticosteroid Myopathy in Intensive Care Patients**
Philippe Hanson, MD, Alain Dive, MD, Jean-Marie Brucher, MD, PhD, Michel Bisteau, BS, Michel Dangoisse, MD, and Thierry Deltombe, MD
- 1381 Comparison of Single-Fiber and Macro Electrode Recordings: Relationship to Motor Unit Action Potential Duration**
Daniel Dumitru, MD, John C. King, MD, and Sanjeev D. Nandedkar, PhD
- 1389 Effects of Cutaneous Histamine Application in Patients with Sympathetic Reflex Dystrophy**
Frank Birklein, MD, Detlef Claus, MD, PhD, Bernhard Riedl, MD, Bernhard Neundörfer, MD, PhD, and Hermann O. Handwerker, MD, PhD
- 1396 Value of Sphincter Electromyography in the Diagnosis of Multiple System Atrophy**
Jackie Palace, MRCP, Vijay A. Chandiramani, FRCS, and Clare J. Fowler, FRCP
- 1404 Partial Transformation from Fast to Slow Muscle Fibers Induced by Deafferentation of Capsaicin-Sensitive Muscle Afferents**
Orazio Brunetti, PhD, Anna M. Barazzoni, PhD, Giovannella Della Torre, PhD, Paolo Clavenzani, VMD, Vito E. Pettorossi, MD, and Ruggero Bortolami, VMD
- 1414 Directional Sensibility for Quantification of Tactile Dysfunction**
Håkan Olsson, MD, PhD, Ulf NorrSELL, MD, PhD, Karin Göthner, and B. Gunnar Wallin, MD, PhD
- 1422 Skeletal Muscle Fiber Degeneration in mdx Mice Induced by Electrical Stimulation**
Mizuko Yoshida, PhD, Tetsuya Matsuzaki, PhD, Munehiro Date, PhD, and Keiji Wada, MD, PhD
- 1433 Motor Involvement in Acute Herpes Zoster**
Maija Haanpää, MD, V. Häkkinen, MD, PhD, and T. Nurmikko, MD, PhD
- 1439 The Effect of Pharmacologic Erection on the Dorsal Nerve of the Penis**
Claire C. Yang, MD, William E. Bradley, MD, and Richard E. Berger, MD
- 1445 Case of the Month: n-Hexane Neuropathy Due to Rubber Cement Sniffing**
A. Gordon Smith, MD, and James W. Albers, MD, PhD

SHORT REPORTS

- 1451 Four New Polymorphisms in the Human Dystrophin Gene from an Argentinian Population**
Sergio Enrique Baranzini, Biochem, PhD, Uwe Lenk, PhD, Irena Szijan, Biochem, Pharm, PhD, and Astrid Speer, MD, PhD
- 1454 POEMS Syndrome in a 24-Year-Old Man Associated with Vitamin B12 Deficiency and a Solitary Lytic Bone Lesion**
Paul Joseph Tuite, MD, and Vera Brill, MD, FRCP(C)
- 1457 Myasthenia Gravis and Charcot-Marie-Tooth Disease Type 1A: An Unusual Combination of Diseases**
Chiung-Mei Chen, MD, Hong-Shiu Chang, MD, Rong-Kuo Lyu, MD, Lok-Ming Tang, MD, and Sien-Tsong Chen, MD
- 1460 Median-Ulnar Anastomosis to Thenar, Hypothenar, and First Dorsal Interosseous Muscles: Collision Technique Confirmation**
Howard W. Sander, MD, Christine Quinto, MD, and Sudhansu Chokroverty, MD
- 1463 Magnetic Resonance Imaging of Skeletal Muscles in the Polymyositis**
Junko Fujitake, MD, Yasuhiro Ishikawa, MD, PhD, Hayato Fujii, MD, Kazumasa Nishimura, MD, PhD, Katsumi Hayakawa, MD, PhD, and Yoshihisa Tatsuoka, MD, PhD

REGULAR FEATURES

- 1467 Letters to the Editor**
- 1470 Calendar of Events**
- 1471 AAEM News and Comments**

DECEMBER 1997

1473 Message from the Editor's Office

1474 Acknowledgments

MAIN ARTICLES

- 1477 **AAEM Minimonograph #26: The Electrodiagnosis of Carpal Tunnel Syndrome**
J. Clarke Steven, MD
- 1487 **Interaction of Thyroid State and Denervation on Skeletal Myosin Heavy Chain Expression**
Fadia Haddad, PhD, Christopher Arnold, BS, Ming Zeng, and Kenneth Baldwin, PhD
- 1497 **Smooth Muscle Electromyography from Rat Urethra**
David Yarnitsky, MD, Arkady Dashkovsky, MD, Zeev Rogovsky, DSc, and Yoram Vardi, MD
- 1502 **A Randomized, Controlled Trial of Creatine Monohydrate in Patients with Mitochondrial Cytopathies**
M.A. Tarnopolsky, MD, PhD, B.D. Roy, MSc, and J.R. MacDonald, MSc
- 1510 **Computing Normative Ranges Without Recruiting Normal Subjects**
Israel Yaar, MD
- 1515 **Absences of Laminin α 1 Chain in the Skeletal Muscle of Dystrophic dy/dy Mice**
Carl-Fredrik Tiger, MS, and Donald Gullberg, PhD
- 1525 **Concentric and Single Fiber Electrode Spatial Recording Characteristics**
John C. King, MD, Daniel Dumitru, MD, and Sanjeev Nandedkar, PhD
- 1534 **Human Leukocyte Antigen Class I in Polymyositis: Leukocyte Infiltrates, Regeneration, and Impulse Block**
Tormod Fladby, MD, PhD, Margitta T. Kampman, MD, Sissel Løseth, MD, Sigurd Lindal, MD, PhD, and Svein Ivar Mellgren, MD, PhD
- 1541 **Acetazolamide Reduces Peripheral Afferent Transmission in Humans**
W.F. Brechue, PhD, D.M. Kocaja, PhD, and J.M. Stager, PhD
- 1549 **Afferent-Inherent Regulation of Myosin Heavy Chain Isoforms in Rat Muscle Spindles**
Jon M. Walro, PhD, Jun Wang, PhD, and Gina M. Story, BS
- 1561 **Effect of Age and Gender on Sudomotor and Cardiovascular Function and Blood Pressure Response to Tilt in Normal Subjects**
Phillip A. Low, MD, Jong-Chyou Deng, MD, Tonette L. Opfer-Gehrking, Peter J. Dyck, MD, Peter C. O'Brien, PhD, and Jeff M. Slezak
- 1569 **Chronic Inflammatory Demyelinating Polyradiculoneuropathy in Children: II. Long-Term Follow-Up, with Comparison to Adults**
Zachary Simmons, MD, John J. Wald, MD, James W. Albers, MD, PhD
- 1576 **Case of the Month: Anti-Hu-Associated Paraneoplastic Sensory Neuronopathy Responding to Early Aggressive Immunotherapy: Report of Two Cases and Review of Literature**
Shin J. Oh, MD, Edward J. Dropcho, MD, and Gwen C. Claussen, MD

SHORT REPORTS

- 1583 **Remission of Myasthenia Gravis Caused by Proteinuria in nephrotic Syndrome**
Malaz Almsaddi, MD, Tulio E. Bertorini, MD, and William Bastnagel, MD
- 1587 **Reversible Paralysis with Status Asthmaticus, Steroids, and Pancuronium: Clinical Electrophysiological Correlates**
Jeremy Road, MD, Gordon Mackie, MD, Tian-Xi Jiang, PhD, Heather Stewart, MD, and Andrew Eisen, MD
- 1591 **Anterior Interosseous Nerve Syndrome Presenting with Pronator Teres Weakness: A Case Report**
Nigel L. Ashworth, MB, ChB, Shawn C. Marshall, MD, FRCPC, and Dale A. Classen, MD, FRCSC
- 1595 **Fulminant Demyelinating Neuropathy Mimicking Cerebral Death**
Nandini Bakshi, MD, Ricardo A. Maselli, MD, Sidney M. Gospe, Jr., MD, PhD, William G. Ellis, MD, Craig McDonald, MD, and Raul N. Mandler, MD

- 1598 Focal Myopathy Associated with Chronic Intramuscular Injection of Piritramide**
Peter Y.K. Van den Bergh, MD, PhD, Lamia Guettat, MD, Bruno C. Vande Berg, MD, and Jean-Jacques Martin, MD, PhD

**REGULAR
FEATURES**

- 1601 Letters to the Editor**
1609 Calendar of Events
1610 AAEM News and Comments
1613 Volume 20 Author Index
1623 Volume 20 Subject Index
I Volume 20 Contents

